NORTH DAKOTA *Aviation System Plan*

SUMMARY FOR 2005-2009
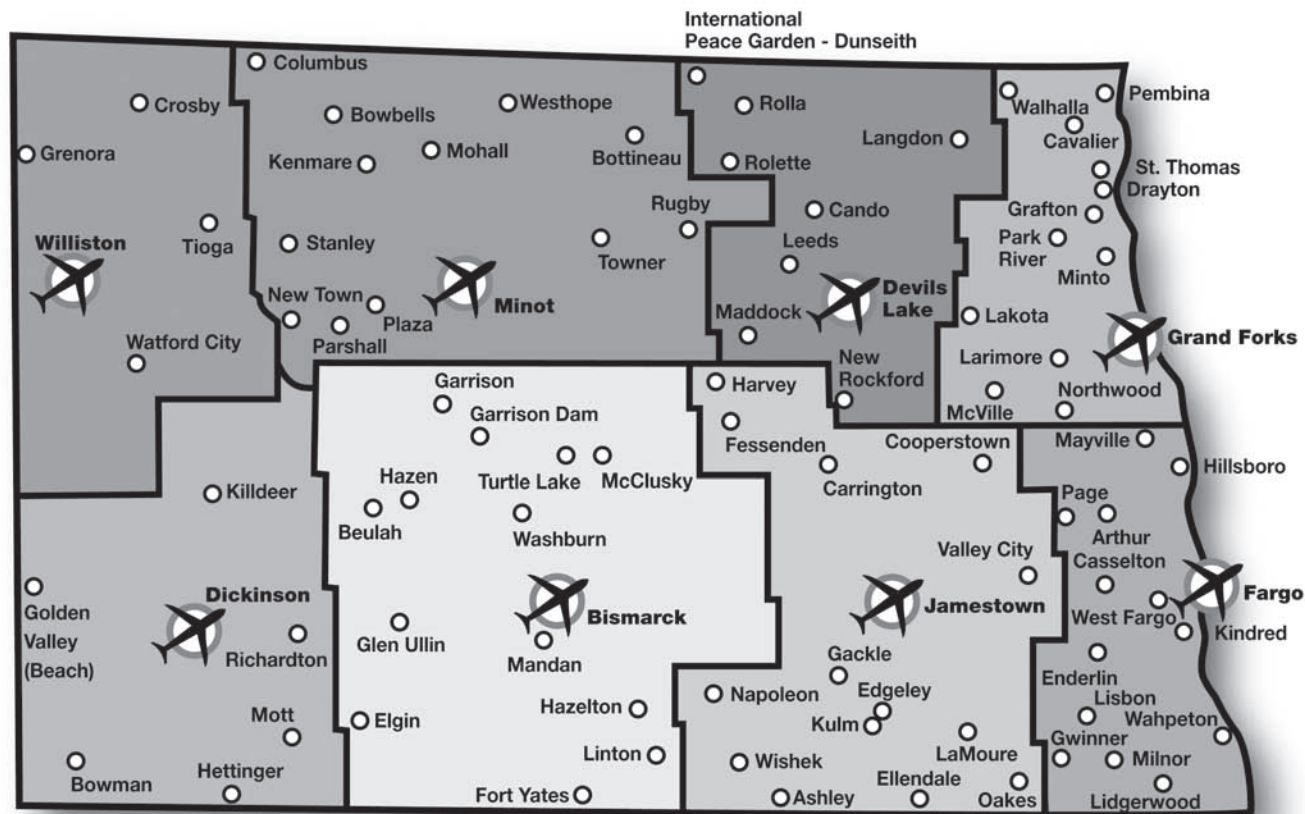
EXECUTIVE REPORT

PUBLIC AIRPORTS IN NORTH DAKOTA

International Peace Garden - Dunseith

Columbus
Crosby
Grenora
Bowbells
Westhope
Rolla
Walhalla
Pembina
Cavalier
Mohall
Langdon
St. Thomas
Drayton
Kenmare
Bottineau
Rolette
Williston
Tioga
Stanley
Rugby
Cando
Grafton
Park River
Minto
New Town
Plaza
Minot
Towner
Leeds
Devils Lake
Lakota
Watford City
Parshall
Maddock
New Rockford
Larimore
Grand Forks
Killdeer
Garrison
Harvey
McVille
Northwood
Garrison Dam
Fessenden
Cooperstown
Mayville
Hillsboro
Hazen
Turtle Lake
McClusky
Carrington
Page
Beulah
Washburn
Arthur
Casselton
Golden Valley (Beach)
Dickinson
Richardton
Glen Ullin
Bismarck
Valley City
Jamestown
West Fargo
Fargo
Kindred
Mandan
Gackle
Enderlin
Lisbon
Mott
Elgin
Hazelton
Napoleon
Edgeley
Kulm
Gwinner
Wahpeton
Linton
Milnor
Bowman
Hettinger
Fort Yates
Wishek
LaMoure
Ellendale
Oakes
Lidgerwood
Ashley
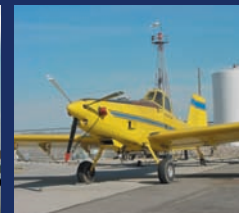
90 TOTAL AIRPORTS = ✈ Air Carrier Service Airport (8)   ○ General Aviation Facility (82)

Air Service in North Dakota

Billings

Sidney

Williston

Minot

Devils Lake

Grand Forks

Thief River Falls

Dickinson

Bismarck

Jamestown

Fargo

Minneapolis (MSP)

Aberdeen

Denver (DEN)

Chicago O'Hare (ORD)

Carrier	Code
Big Sky	
Great Lakes	
Northwest	
United	

Service/Market	DEN	MSP	ORD
Daily Departures	663	630	1,253
Nonstop Mkt Served	126	132	160

Airport Statistics

Public Use Airport	Based Aircraft 1980	1985	1990	1995	2000	2005	Pilots 1980	1985	1990	1995	2000	2005	Airport Operations (000's) 1980	1985	1990	1995	2000	2005	Reconst. Overlay Runway	Extend Runway	Seal Coat	Lighting NAVAIDs	Safety Obstruct. Removal	Purchase Land/ Easement	FAA	State	Local
Arthur	8	8	8	5	4	4	13	14	8	7	3	2	2	2	2	1	0.5	.05			●					5	5
Ashley	4	2	2	3	3	4	11	10	7	5	2	1	3	1	1	1	1	1	●							100	100
Beach	11	14	7	5	5	6	26	26	13	9	3	3	3	6	3	1	1	1.6		●					833	30	30
Beulah	8	15	13	15	9	11	8	21	14	18	9	7	8	8	5	5	3	2								100	100
Bismarck	105	95	90	82	99	101	311	275	229	235	194	218	91	69	68	60	56	46	●		●				16,640	450	450
Bottineau	13	13	15	13	11	16	23	36	24	18	13	14	5	8	7	5	3	4	●	●	●				2,500	65	65
Bowbells	7	7	7	5	3	6	9	13	6	6	6	3	2	2	2	1	0.4	0.5			●					5	5
Bowman	22	19	20	10	15	13	38	31	26	17	11	11	20	9	8	4	3	2.5	●	●	●	●	●	●	6,000	158	158
Cando	5	9	9	10	9	6	5	15	16	11	8	8	2	3	2	3	3	3.5			●				833	22	22
Carrington	7	5	5	8	10	11	19	26	13	14	5	3	4	3	3	3	2	2	●		●				833	22	22
Casselton	0	2	42	54	51	50	8	12	10	16	7	8	0	1	18	20	15	13			●				1,055	28	28
Cavalier	12	10	15	13	13	15	22	18	27	23	14	14	5	3	5	3	3	3.5	●		●				1,073	28	28
Columbus	4	4	4	4	2	0	8	7	3	4	2	0	1	1	1	1	0.2	0.1								5	5
Cooperstown	11	13	21	14	12	16	24	16	12	8	5	7	6	5	4	3	2	4			●	●			1,055	27	27
Crosby	11	11	14	10	14	12	27	26	28	25	19	16	5	6	3	2	2	2			●				759	20	20
Devils Lake	30	35	44	46	57	59	59	42	29	36	31	31	26	18	21	22	24	22	●		●				7,169	189	189
Dickinson	34	28	23	20	22	22	59	72	52	40	32	51	24	17	6	11	11	10	●		●				3,000	101	101
Drayton	2	1	1	3	2	2	9	13	8	6	4	6	1	1	0.2	2	0.6	0.6								15	15
Edgeley	3	4	2	4	5	5	6	7	7	8	9	8	3	1	0.3	0.6	1	1	●					●	833	23	23
Elgin	3	7	3	2	2	2	1	3	5	3	2	0	1	2	1	0.2	0.2	0.1			●					5	5
Ellendale	10	10	6	5	4	5	10	8	5	5	4	6	4	3	2	2	2	2	●		●	●			955	25	25
Enderlin	4	4	3	3	4	8	10	6	5	5	4	8	1	1	1	2	2	2.4			●					100	100
Fargo	115	95	84	117	163	192	309	238	297	282	324	329	98	88	102	88	96	83		●	●	●		●	14,500	384	384
Fessenden	0	1	3	1	1	1	5	6	3	6	2	1	0	0.2	1	1	1	0.7			●					5	5
Fort Yates	0	0	0	0	0	0	1	0	0	0	1	0	2	1	0.2	0.2	0.2	0.3	●						766		40
Gackle	0	0	0	0	0	0	0	2	0	0	1	0	0.2	0.1	0.1	0.1	0.1	0.1	●							5	5
Garrison	7	7	10	9	9	12	5	12	13	16	9	7	2	4	8	3	3	3	●		●				955	25	25
Garrison Dam	0	0	0	0	0	0	3	1	2	2	1	2	0	0.2	0.1	0.1	0.1	0.1								20	
Glen Ullin	6	6	6	5	6	7	6	9	7	5	3	3	5	2	1	0.6	0.8	1	●		●	●			1266	33	33
Grafton	9	10	15	15	18	20	35	34	28	23	17	15	7	9	10	5	5	6	●		●	●		●	1,092	29	29
Grand Forks	117	105	144	114	112	113	448	266	336	376	479	540	234	203	290	247	223	268	●		●	●		●	25,977	683	683
Grenora	0	0	1	1	1	1	3	2	3	2	1	3	1	0.3	0.1	0.4	0.4	0.3	●							3	3
Gwinner	7	7	10	9	8	8	11	6	8	6	5	4	7	4	3	2	4	4	●		●				1,111	29	29
Harvey	5	10	12	7	6	7	10	13	21	18	3	4	5	7	5	4	3	2	●		●				846	22	22
Hazen	3	12	13	6	3	3	5	8	9	8	5	5	1	3	4	2	1	1			●	●			749	20	20
Hazelton	2	2	2	1	1	1	5	5	3	5	4	4	0.3	0.5	0.2	0.1	0.2	0.2					●			4	4
Hettinger	20	21	20	25	20	18	23	29	17	14	5	3	8	6	5	3	3	3	●		●			●	833	22	22
Hillsboro	5	5	5	14	16	21	16	16	10	15	14	18	2	2	2	3	3	3			●	●		●	1,259	33	33
Jamestown	47	42	42	38	42	42	95	71	68	52	47	36	39	35	30	25	35	35		●	●	●		●	6,555	172	172
Int'l Peace Garden	0	0	0	0	0	0	1	5	3	2	1	3	2	2	1	0.4	0.3	0.3	●		●				755	40	
Kenmare	11	10	12	13	15	17	19	29	22	16	14	17	4	5	4	3	3	3			●				833	23	23
Killdeer	6	5	3	1	2	2	5	8	6	4	2	5	5	4	1	0.4	0.5	0.2								150	150
Kindred	11	12	21	20	23	18	20	15	14	12	14	10	5	5	5	4	4	4			●				833	22	22
Kulm	1	2	2	2	1	1	4	2	1	2	1	0	0.3	0.3	0.6	0.3	0.1	0.1	●							60	60
Lakota	8	8	6	7	6	8	15	21	12	13	3	4	4	2	2	2	1	1	●		●				833	22	22
LaMoure	5	8	8	8	10	10	13	3	5	8	7	8	2	2	2	2	2	2	●		●				1,694	45	45
Langdon	10	11	7	13	12	12	27	15	14	16	15	15	8	10	3	2	2	2	●		●				1,318	35	35
Larimore	26	7	14	16	21	22	18	23	26	26	20	23	16	6	7	7	7	7	●		●	●				40	40
Leeds	4	4	11	8	10	0	8	12	7	6	5	4	2	2	3	1	2	2	●		●					150	150
Lidgerwood	0	0	2	0	0	0	2	5	7	2	1	0	0	0.1	0.6	0.2	0.3	0.1								3	3
Linton	3	2	3	10	14	17	3	3	2	6	1	3	3	2	1	2	2	2	●	●	●				1,722	45	45
Lisbon	14	12	12	12	9	9	16	17	20	14	10	9	9	4	3	2	1	2	●		●				2,000	52	52
Maddock	4	1	1	3	3	3	14	12	5	10	7	8	2	0.3	0.2	1	1	1			●					40	40
Mandan	75	33	26	25	32	30	61	64	46	40	35	40	25	13	9	8	8	7	●		●				1,566	41	41
Mayville	12	7	10	7	6	6	16	14	17	16	8	10	5	2	4	4	4	6			●	●				200	200
McClusky	2	1	1	1	2	1	6	2	1	1	2	1	2	1	1	0.3	0.5	0.2								10	10
McVille	0	0	0	0	2	2	4	3	5	2	2	3	0.2	0.5	0.2	0.1	0.6	0.5								20	20
Milnor	3	1	1	2	2	1	5	2	3	6	2	3	1	0.4	0.2	0.2	0.3	0.2								10	10
Minot	101	97	67	55	61	71	330	194	182	162	238	245	53	47	42	40	34	40	●	●	●	●		●	10,800	284	284
Minto	6	5	5	6	8	7	7	5	6	5	5	3	4	1	2	2	2	2			●					50	50
Mohall	10	11	4	3	4	5	13	12	5	6	3	3	7	6	1	0.6	1	1	●		●				1,092	29	29
Mott	11	11	6	4	7	7	16	12	6	8	4	3	7	6	3	0.7	1	1	●	●	●				1,155	30	30
Napoleon	2	3	3	2	1	2	4	6	2	1	1	1	2	1	0.5	0.6	0.3	0.3								150	150
New Rockford	4	7	6	10	2	4	20	13	9	13	5	7	4	2	2	2	1	1			●					150	150
New Town	9	3	2	2	2	5	2	3	5	2	6	5	3	1	1	1	1	0.8	●		●			●	1,500	39	39
Northwood	12	13	11	12	12	11	24	20	14	12	12	9	8	8	6	7	2	6			●			●	861	23	23
Oakes	4	10	13	16	13	12	15	32	26	19	8	6	3	4	5	3	3	2	●		●				1,000	26	26
Page				8	10	13				10	5	7				2	2	3			●				2,000	52	52
Park River	7	7	9	7	8	6	20	12	10	9	4	6	7	5	5	3	3	4	●		●				844	23	23
Parshall	9	12	11	10	8	7	6	14	7	7	4	2	4	5	3	2	1	1	●		●				1,000	26	26
Pembina	13	13	15	9	15	9	15	6	5	2	3	6	8	4	3	2	2	1	●		●				797	21	21
Plaza	1	1	1	0	0	0	8	5	2	3	1	3	0.5	0.3	0.1	0.1	0.1	0.1				●				5	5
Richardton	0	0	0	0	0	0	0	7	2	2	2	2	0.4	0.2	0.1	0.1	0.1	0.1								5	5
Rolette	5	7	3	2	3	2	3	12	6	5	5	4	2	3	1	1	1	0.4								20	20
Rolla	15	15	11	12	10	8	18	15	10	12	7	8	7	4	3	2	2	2			●				663	17	17
Rugby	18	18	11	14	14	12	24	31	16	15	10	9	12	8	3	4	3	2	●		●				1,222	32	32
Stanley	15	14	10	11	11	8	20	30	20	11	6	6	7	6	3	3	2	1	●		●				755	20	20
St. Thomas	10	6	10	11	7	7	8	8	6	4	3	6	7	4	3	2	2	1								30	30
Tioga	8	11	20	14	23	53	11	15	17	14	7	6	10	8	7	3	3	9	●		●				1,126	30	30
Towner	7	5	5	4	5	5	8	10	8	9	5	5	3	1	2	2	1	1			●					40	40
Turtle Lake	0	1	1	2	3	3	10	9	13	9	7	13	0	0.2	1	0.4	0.7	0.8	●		●					8	8
Valley City	17	17	31	32	45	38	51	42	36	38	27	22	20	10	11	8	8	5	●		●				4,000	105	105
Wahpeton	42	42	32	31	35	30	57	39	26	19	30	37	11	10	9	8	10	10	●		●				766	20	20
Walhalla	9	9	9	8	7	7	27	16	16	13	7	4	7	6	3	3	1	1	●		●				810	21	21
Washburn	6	6	10	7	6	7	11	17	14	10	6	7	5	5	3	2	1	1	●		●				1,266	33	33
Watford City	11	18	10	10	12	12	21	17	23	16	9	14	6	8	4	3	2	2	●		●				1,085	25	25
West Fargo	8	11	35	44	40	36	38	35	24	37	44	58	5	6	14	16	9	8	●		●					200	200
Westhope	3	3	4	2	4	5	6	9	8	6	1	4	2	2	1	0.4	0.2	0.4								60	60
Williston	37	75	37	32	40	35	95	110	80	52	46	58	30	48	16	20	20	22	●		●	●			9,345	246	246
Wishek	2	2	1	2	3	3	4	3	2	4	3	3	1	1	0.3	0.7	0.9	0.8								100	100
Public Airports	**1,300**	**1,187**	**1,278**	**1,395**	**1,351**	**1,416**	**2,904**	**2,502**	**2,270**	**2,416**	**1,989**	**2,142**	**1,012**	**780**	**833**	**900**	**673**	**705**	**57**	**20**	**24**	**64**	**41**	**34**	**$153,088 FAA**	**$5,940 State**	**$5,980 Local**
All ND Airports	**1,665**	**1,926**	**1,790**	**1,778**	**1,596**	**1,623**	**4,095**	**3,764**	**3,208**	**3,050**	**2,422**	**2,580**	**1,300**	**1,040**	**1,060**	**1,100**	**800**	**810**									

Number of Projects

Total Demand $165 Million

Airport Service Areas

SASKATCHEWAN

MANITOBA

Winnipeg

Brandon

Weyburn

CANADA

85

83

Minot

2

Williston

Devils Lake

Grand Forks

Crookston

SIDNEY, MT

52

281

29

MINNESOTA

NORTH DAKOTA

Jamestown

Fargo

Moorhead

Dickinson

94

Bismarck

94

MONTANA

85

SOUTH DAKOTA

Mobridge

Aberdeen

Primary Service Areas

Minimum Service Areas

Most of the State's citizens live within a commercial airport service area as shown above on Chart A. Citizens who live outside the cities served by an airline benefit from scheduled service and air cargo activities. Citizens in outlying communities can access air service using the state's highway or transit system.

Each public airport facility has a service area extending beyond the community and in some locations into Canada or surrounding states. Communities are aware of the airport competition for passengers in their service area and provide marketing initiatives to fly from a North Dakota airport. Erosion or leakage may occur to non-ND airports, however "fly local" promotion is important to sustaining or improving existing airline service.

AIR CARRIER

PRIMARY NON-HUB	Runway Length	COMMERCIAL REGIONAL	Runway Length
*Bismarck	8794'	*Devils Lake	5509'
*Fargo	9000'	*Dickinson	6400'
*Grand Forks	7349'	*Jamestown	6500'
*Minot	7700'	*Williston	6650'
(4)		(4)	

GENERAL AVIATION

CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4	CATEGORY 5
A&B II 12,500 lbs> 60%	A&B II 12,500 lbs< 100%	A&B I 12,500 lbs< 95%	A&B I 12,500 lbs< 75% TO 50%	TURF LANDING STRIP
*Gwinner *Hazen *Wahpeton	Ashley *Bowman *Carrington *Casselton *Grafton *Hettinger *Mandan *Pembina *Rolla *Tioga *Valley City *Watford City	*Beach Beulah *Bottineau *Cando *Cavalier *Cooperstown *Crosby *Edgeley *Ellendale *Ft. Yates *Garrison *Glen Ullin *Harvey *Hillsboro *Kenmare Killdeer *Kindred *Lakota *LaMoure *Langdon *Linton Mayville New Rockford *Northwood *Oakes *Park River Rolette *Rugby *Stanley *Walhalla *Washburn West Fargo	Drayton *Dunseith-IPG Enderlin Larimore Leeds *Lisbon Minto *Mohall *Mott Napoleon New Town Page *Parshall St. Thomas Westhope Wishek	Arthur Bowbells Columbus Elgin Fessenden Gackle Grenora Hazelton Kulm Lidgerwood Maddock McClusky McVille Milnor Plaza Richardton Riverdale Towner Turtle Lake
(3)	(12)	(32)	(16)	(19)

Classifications

Air Carrier - Primary Non-Hub
Provides scheduled passenger and cargo services by jet transport aircraft and qualifies for federal airport entitlement funding and passenger facility charges.

Air Carrier - Commercial Regional
Provides scheduled and cargo passenger regional services by commuter aircraft, qualifying for state apportioned federal funds and essential air service candidates.

General Aviation - Category 1 & 2
Provides access to North Dakota markets and population centers which requires significant service by business jets, twin-engine piston, or turbo aircraft.

General Aviation - Category 3
Provides access to North Dakota markets and population centers which requires service by limited numbers of business jets and single or light twin-engine aircraft.

General Aviation - Category 4 & 5
Provides access to North Dakota communities supporting low aircraft activity levels due to runway length restrictions and turf landing surfaces with single or light twin aircraft.

Note: Classification based on FAA airport design groups and runway lengths.

90 Public Airports

72 Paved Airports

80 Lighted Airports

Airplane Design Group (ADG) Wingspan
I. Wingspan up to but less than 49 ft.
II. Wingspan 49 ft. up to but less than 79 ft.

Aircraft Approach Category
A. Speed less than 91 knots
B. Speed 91 knots up to but less than 121

*54 Federal Aid Eligible Airports

Airline History

Statewide Passengers (On & Off)

MILLIONS

	90	95	00	01	02	03	04

MAJOR
Annual Trend by Airport

Thousands

260
240
220
200
180
160
140
120
100
80
60
40

Fargo
Bismarck
Grand Forks
Minot

94 95 96 97 98 99 00 01 02 03 04
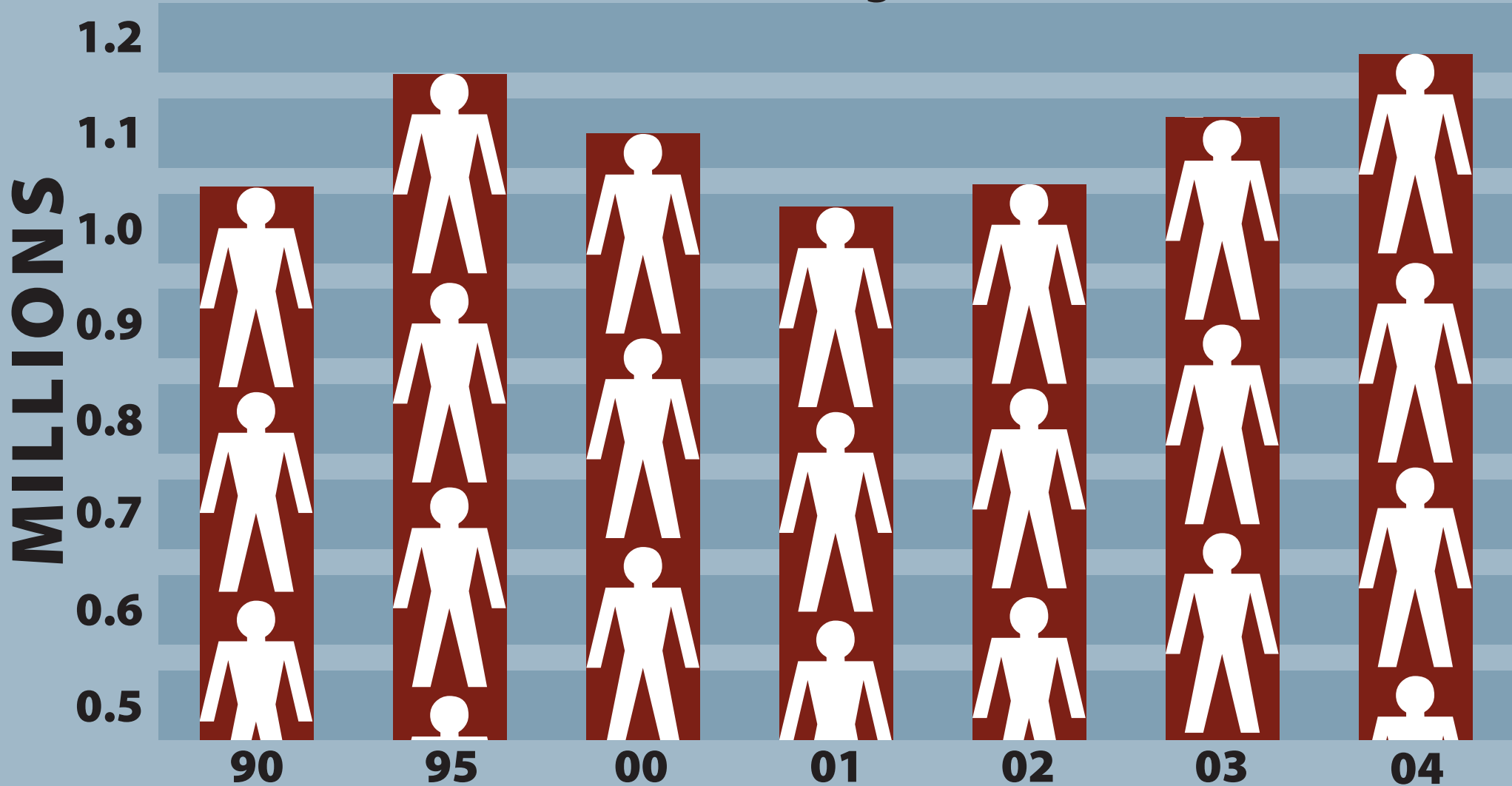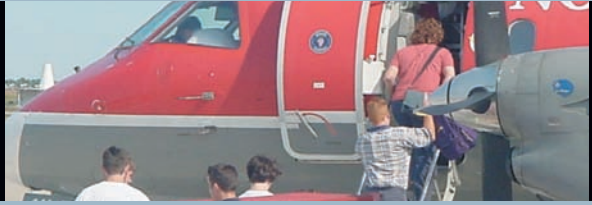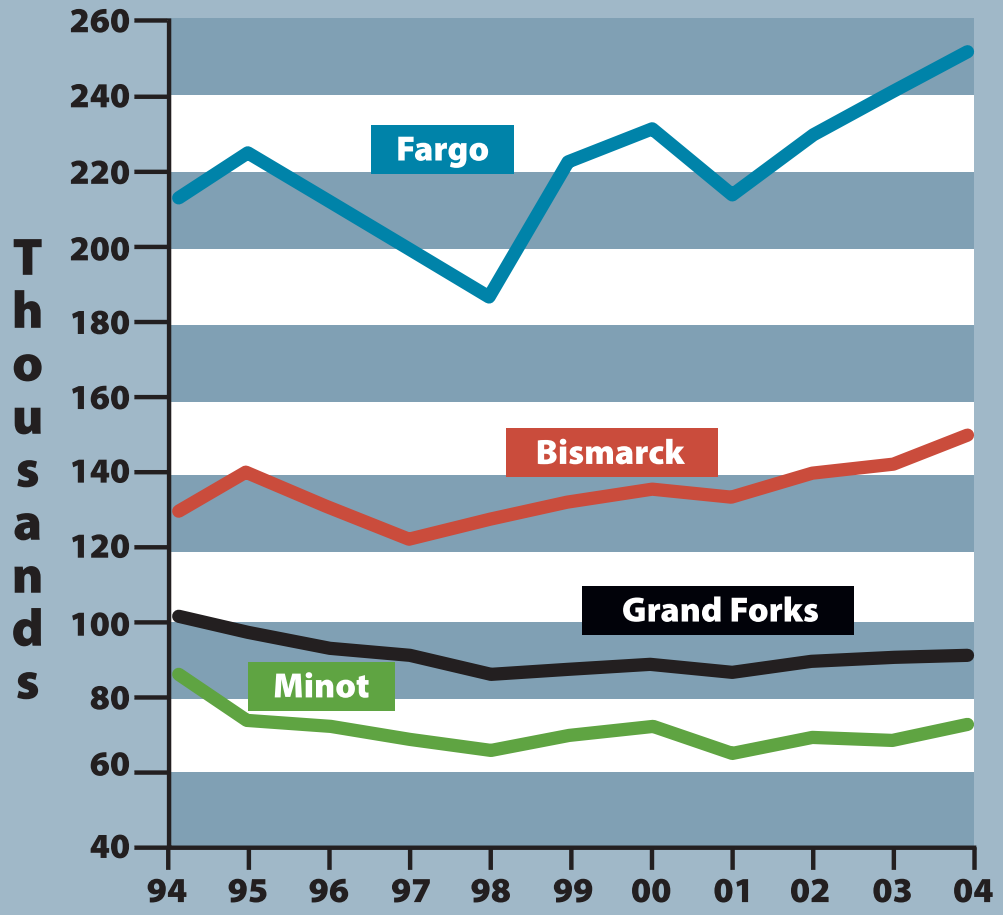
REGIONAL
Annual Trend by Airport
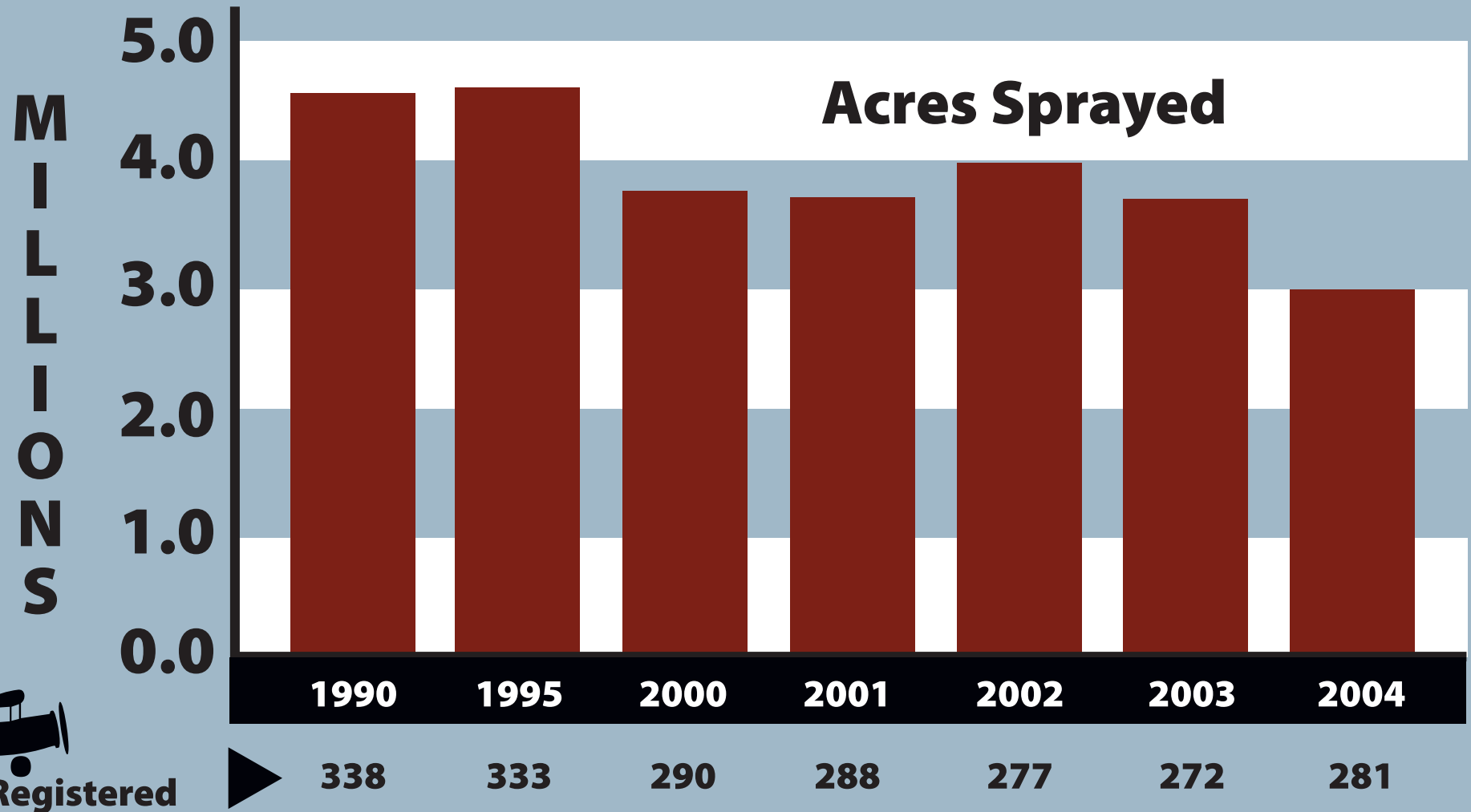
Thousands

9
8
7
6
5
4
3
2
1

Williston
Dickinson
Devils Lake
Jamestown

94 95 96 97 98 99 00 01 02 03 04

Aerial Acres Sprayed

Acres Sprayed

MILLIONS	1990	1995	2000	2001	2002	2003	2004
5.0							
4.0							
3.0							
2.0							
1.0							
0.0							

Aircraft Registered ▶

	1990	1995	2000	2001	2002	2003	2004
	338	333	290	288	277	272	281

UND AEROSPACE — UNIVERSITY OF NORTH DAKOTA

	Airlines	Airport Concessions	Government/ Military	Air Freight Handling	Agricultural Sprayers	Aviation Businesses/Other	Travel Agents Hotels/Motels
1999 Direct Jobs: 4900	185, 269, 177	256, 326, 270	1,208, 1,400, 1,067	86, 197, 776	665, 687, 568	770, 1,025, 1,092	371, 485, 950
1999 Direct Payroll: $115.3 Million	$4.7, $6.6, $5.5	$1.8, $2.5, $5.7	$28.0, $29.1, $29.5	$2.3, $4.4, $25.0	$4.2, $4.6, $4.3	$8.6, $14.7, $29.2	$3.5, $5.0, $16.2
	87 94 99	87 94 99	87 94 99	87 94 99	87 94 99	87 94 99	87 94 99
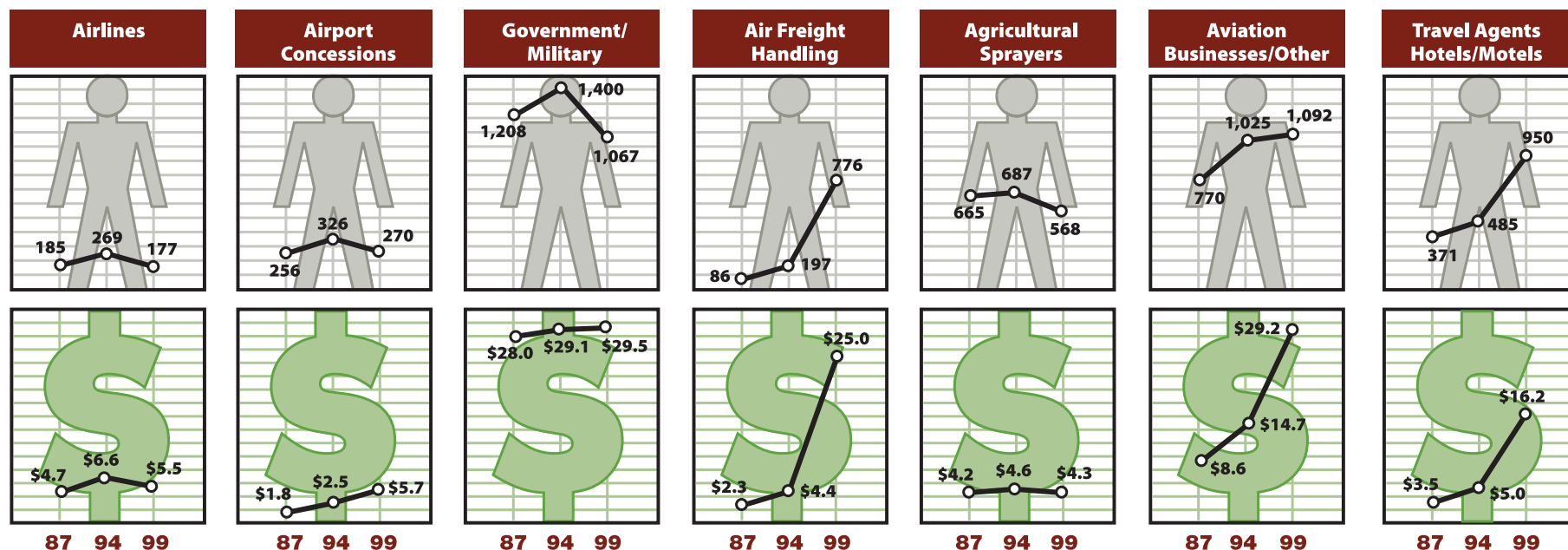
Aviation – Makes Dollars & $ense

The expenditure and jobs generated by aviation-related groups in North Dakota provide a definite boost to the state's economy. As quantified in the 1999 Economic Impact Study, some $115.3 million dollars in total direct payroll were added to the state's economy because of aviation; in addition, 4900 direct jobs were created as a result of aviation activities. In 2005, the aviation impacts will be updated to better monitor trends and funding directions.

Hundreds of businesses use aviation as a tool for conducting everyday business, thereby further stimulating the North Dakota economy. In addition, vital health and police services are administered directly through aviation. Some examples of business flights include:

- Flying doctors and nurses to rural satellite clinics
- Air emergency ambulance and helicopter intercepts
- Contractors and engineers using aircraft for construction
- Aerial spraying for crop protection
- Aerial photography and surveying
- Air freight of parts to mines, oil fields and farm businesses
- Powerline and pipeline safety patrol
- Cattle buyers' flights to livestock sales barns
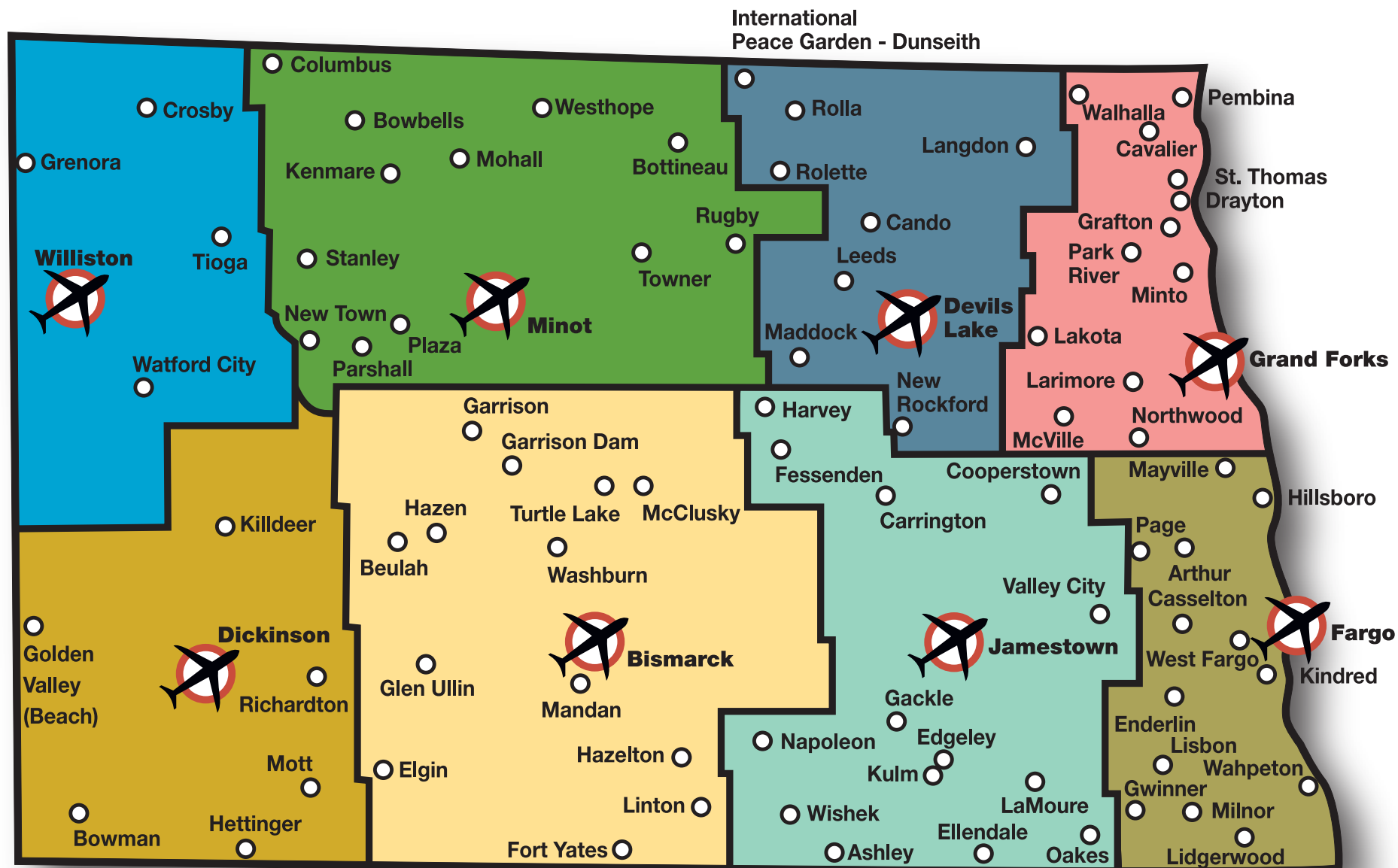- Air cargo of fresh seafood/flowers and hunting dogs
- Aerospace flight and career training at University of North Dakota
- Rain enhancement and hail suppression by aircraft cloud seeding
- Film development, bank check clearance, delivery of computer forms
- Wildlife control and police patrol during inclement weather
- Numerous other activities affecting everyday life in North Dakota

Another major finding of the survey was that the availability of airport facilities is a major criteria for businesses seeking locations for their operations. Proximity to a commercial service airport was ranked third among 10 factors deemed important in site selection. Proximity to a general aviation airport was ranked fifth.

Public Airports in North Dakota

G

International Peace Garden - Dunseith

Columbus
Crosby
Grenora
Bowbells
Westhope
Rolla
Walhalla
Pembina
Cavalier
Langdon
Mohall
Bottineau
Kenmare
Rolette
St. Thomas
Drayton
Williston
Tioga
Rugby
Cando
Grafton
Stanley
Leeds
Park River
Minto
Towner
New Town
Minot
Devils Lake
Lakota
Plaza
Maddock
Parshall
New Rockford
Larimore
Grand Forks
Watford City
Northwood
Garrison
Harvey
McVille
Garrison Dam
Fessenden
Cooperstown
Mayville
Hillsboro
Killdeer
Hazen
Turtle Lake
McClusky
Carrington
Page
Beulah
Washburn
Arthur
Casselton
Valley City
Golden Valley (Beach)
Dickinson
Bismarck
Jamestown
Fargo
Glen Ullin
West Fargo
Kindred
Richardton
Mandan
Gackle
Edgeley
Enderlin
Lisbon
Mott
Elgin
Hazelton
Napoleon
Kulm
Wahpeton
Gwinner
Hettinger
Linton
Wishek
LaMoure
Milnor
Bowman
Fort Yates
Ashley
Ellendale
Oakes
Lidgerwood

90 TOTAL AIRPORTS = ✈ Air Carrier Service Airport (8) ○ General Aviation Facility (82)

Airport Funding

Airport Construction History
2000-2004 Five Year Total = $140.2 million

$ MILLIONS

100	
90	
80	
70	
60	
50	
40	
30	
20	
10	
0	

$ 99.2

$ 6.0

$ 35.0
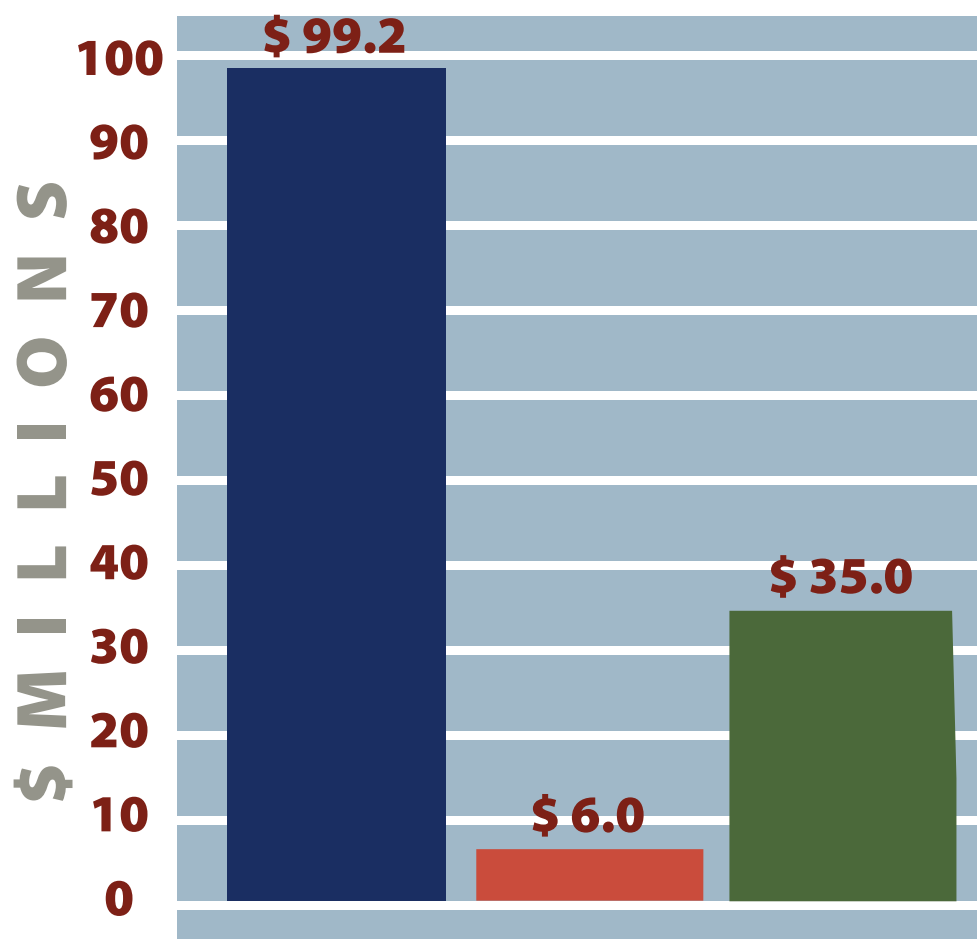
FAA | **State** | **Local**
71% | **4%** | **25%**

FAA
$ MILLIONS

2000 - $11.0

2001 - $18.4

2002 - $23.0

2003 - $20.0

2004 - $26.8

* Local Revenues Based on Airport Mill Levies, Rentals, Passenger Facility Charges, etc.